

## **SPATIAL DYNAMICS OF ARCTIC GRAYLING IN THE GIBBON RIVER, YELLOWSTONE NATIONAL PARK**

Amber Steed, Alexander Zale, and Steven Kalinowski, Montana State Cooperative Fishery Research Unit, P.O. Box 173460, Bozeman, MT 59717, [asteed@montana.edu](mailto:asteed@montana.edu)

Todd Koel, USDI National Park Service, P.O. Box 168, Yellowstone National Park, WY 82190, [todd\\_koel@nps.gov](mailto:todd_koel@nps.gov)

Fluvial Arctic grayling are presently restricted to less than 5 percent of their native range in the contiguous United States and are listed as Category 3 under the Endangered Species Act. Fluvial grayling are thought to be restricted to a segment of the Big Hole River, Montana, in which abundances are too low to estimate accurately. Although fluvial grayling of the Madison, lower Firehole, and lower Gibbon rivers of Yellowstone National Park were thought to be extirpated by 1935, anglers have reported catching grayling throughout the Gibbon River annually. Our goal was to determine if a viable fluvial grayling population persists in the Gibbon River, or if fish caught in the river are downstream emigrants from lacustrine populations in headwater lakes. Seventeen grayling were sampled from the Gibbon River in 2005 by intensive electrofishing and fly-fishing efforts. In contrast, fry-trapping yielded few to no grayling at reaches throughout the Gibbon River. These preliminary data suggested that few grayling adults and fry inhabit the Gibbon River, implying that a reproducing fluvial population may not exist. Our findings may affect the potential Endangered Species Act listing of fluvial grayling while supplementing their management and conservation within and outside of Yellowstone National Park.